

## ADOLESCENCE.

*Adolescence: its Psychology and its Relations to Physiology, Anthropology, Sociology, Sex, Crime, Religion.* By G. Stanley Hall, Ph.D., LL.D., President of Clark University and Professor of Psychology and Pedagogy. Vol. i., pp. xx+589; vol. ii., pp. vi+784. (New York: D. Appleton and Co., 1904.) Price 31s. 6d. net.

THIS work is one of wide-reaching scope and interest. The subject of human growth has already been studied in relation to the earlier years and in its special features. The period intervening between childhood and adult life, which has been comparatively neglected, is the one to which Dr. Hall has directed his investigation. The work is thus of interest in focussing attention on an important section of human life; it is of value also in that the results of biology and anthropology are freely used in supplementing and interpreting the data which are gained from physiological and psychological investigation.

The first three chapters deal mainly with physical growth, taking up in order the increase in height and weight, the growth of parts and organs, and the growth in muscular power. The next two chapters deal with the physical and mental disorders of adolescence, and with juvenile faults and immorality. Sex is taken up in three chapters, one relating to boys and two to girls; of these two chapters one deals with the physiology of sex, the other with its bearing on education. Dr. Hall insists with great earnestness on the necessity of ceasing to mould woman's education on that of man, and of finding an education which shall be adapted to her nature, physical and mental. The volume closes with an account of adolescence in literature, biography, and history.

In the second volume, after a preliminary survey of changes in the senses and in voice, the emotional phenomena of adolescence are treated under the headings of adolescent love and adolescent feeling towards nature. Several chapters deal with social and historical relations; initiations in savage and classical times, confirmation as their correlative in modern religion, the social instincts and institutions of youth, ethnic psychology, and the treatment of uncivilised races, form the subject of successive discussions. In treating the subject of religious conversion, Dr. Hall points out that it is peculiarly a phenomenon of adolescence, and that it has close relations to the sexual life. "It is thus," he says, "no accidental synchronism of unrelated events that the age of religion and that of sexual maturity coincide." In the chapter on intellectual development and education there is a careful review of education in school and college, and a discussion of its value in the light of the results presented in preceding sections. Dr. Hall does not hesitate to condemn vigorously and comprehensively the studies and methods of schools for their aridity and want of vital relation to the developing individual, and though his criticisms are directed to American schools, they have a wider application.

It will thus be seen that we have in these volumes a text-book of adolescence in which scientific and

practical interests are closely blended. Underlying the scientific treatment there may be said to be two leading principles. One principle is that of the intimate union, or rather the identity, of physiological and psychological processes.

"More summarily, then," he says, "the idea of soul we hold to is in its lower stages indistinguishable from that of life, and so far in a sense we revert to Aristotle, in holding that any truly scientific psychology must be first of all biological. . . . The first chapter of a scientific psychology, then, is metabolic and nutritive, and the first function of the soul is in food getting, assimilation, and dissimulation."

The other principle, of greater novelty and interest, is the application of the recapitulation theory to the mental as well as the bodily life of childhood and youth.

"Realising the limitations and qualifications of the recapitulation theory in the biologic field, I am now convinced that its psychogenetic applications have a method of their own, and although the time has not yet come when any formulation of these can have much value, I have done the best with each instance as it arose."

In his application of this theory Dr. Hall is undoubtedly original, but it is strange that among the many references to the literature of the subject there should be no mention of the work of Baldwin on "Mental Development in the Child and the Race," in which the same theory is applied in detail.

That the work took its origin in courses of lectures may perhaps explain in part the diffuseness and repetition which appear in these pages. There is an unnecessarily frequent use of strange words; one is at a loss to understand, for example, what is meant by the "solipsistic hopo" and by minds that are "rily." One meets with long lists of objects and with masses of facts which are not adequately correlated.

It is impossible to enter on a discussion of the many theoretical and practical questions which are raised. The treatment of the material, gathered from the most varied sources, is original and suggestive in a high degree; but among the wealth of new material and new conceptions one misses an exact discussion of the method by which the processes of psychogenesis are to be ascertained. Prominent among the data in the book are the results of the *questionnaires* which have been so much used by Dr. Hall and his pupils. We have, however, no presentation of the difficulties inherent in such a method of investigation, and of the precautions to be adopted in utilising its results. Apart from this special point there is the difficulty, which does not receive adequate attention, of distinguishing in any stage of adolescent development what is to be regarded as "palæopsychic," what is due to traditions and customs handed down from generation to generation of boys and girls, and lastly, what is conditioned primarily by the awakening mental and physical activity of the individual as he reacts on his experience. There is not sufficient treatment of the idea of individual growth in completeness and complexity, and of its relation to factors of development, the meaning of which is to be sought in past organic history; and one feels that some of the suggestions of racial influences are little more than

interesting fancies. We may illustrate these points by reference to the author's interpretation of the child's attitude towards water. Human infants, we are told in one passage, have an untaught horror of water, and man must learn to swim. This is part of the evidence that there are "psychic vestiges in man which are suggestive of former arboreal life." Again, we learn that "children are phyletically older than women, and after the first shock and fright most of them take the greatest delight in water." This, among other phenomena, may be interpreted as a "pelagic vestige." Do we need arboreal or pelagic vestiges to account for the fact that, while some children dislike water at first and others delight in it, most of them in the end find it an excellent plaything? W. G. S.

#### A NATURALIST ON THE EAST COAST.

*Notes of an East Coast Naturalist.* By Arthur H. Patterson. Illustrated in colour by F. Southgate. Pp. xiv+304. (London: Methuen and Co., n.d.) Price 6s.

THE author of these notes, who has been in the habit of spending his spare time in a house-boat moored on Breydon Water and other East Anglian lagoons, has naturally enjoyed opportunities of making observations which are given to few people; for Breydon is a locality probably more famous than any other in the annals of British ornithology as a place where rare birds are in the habit of "dropping in." Moreover, as all field naturalists know, early morning and nightfall, ay, even night itself, are the times when the good things of their lives come to them. Hence the advantage of living on the field. In the latter part of the quarter of a century which these notes cover the author discarded the gun in favour of the field-glass, and could thus give undivided attention to observation without being distracted by the hopes and fears attendant on the wildfowler's efforts to obtain "a shot."

Breydon is a very carefully protected breeding area. A watcher has been stationed there for several years during the close season; but it will perhaps be disappointing (although we hope it may prove instructive) to ardent advocates of county council "orders" to find that Mr. Patterson writes, "I must, however, state that since stricter preservation has obtained, not nearly so many birds are to be seen on Breydon." It is impossible to deny the fact that no amount of preservation will bring back the *breeding* birds which left us with the spread of population and buildings, and the alterations in the system of agriculture. The spoonbills come and go in safety, but the late date at which they arrive shows that nesting is not the object of their visits. As a former east coast naturalist, remarkable for his common-sense views of such subjects, wrote years ago, "Unless England becomes dispeopled and uncultivated, nothing can ever bring back in numbers or variety the wealth of the ancient avifauna." But for all that the naturalist still "has his delights" on Breydon; as, for instance, on May 15, 1893, when the author, paddling up stream, saw on the "lumps" still uncovered by water "a congrega-

tion of no less than eighteen Black Terns, more than fifty Turnstones, several Common and Arctic Terns, a number of Dunlins, Grey Plovers, Whimbrel and Godwits, and not least worthy of a glance, three Spoonbills."

To one who is learned in the fishes of our seas, ready access to Yarmouth Market, and an extensive acquaintance among the fishermen have been a great advantage, and many a rare fish has the author rescued from oblivion and added to the east coast catalogue of fishes. Not the least valuable part of the book is that containing the fish notes, although the bulk of the volume deals with birds, their migrations and habits. Among the various interesting scraps of information here collected we find a record of the value of birds and the prices realised by the wildfowler and at the sales of noted collections; accounts of wildfowl brought into the market in hard winters, and incidents related by old-time wildfowlers, whose habits and customs, as well as their recollections of the hard winters and wildfowl of the "old days," are most amusing. Whales, crabs, lobsters, toads, insects, and rats all find a place in these very readable notes. Indeed, some of the most valuable paragraphs relate to the old English black rat, now extinct in most parts of the country, but so abundant in the malthouses and sail lofts of Yarmouth that Mr. Patterson can write of "a plague of Black Rats." This and many other of the records are well worth preserving as of permanent value, and the author is quite justified in thinking that some value may attach to these notes and observations "owing to their dealing with a period during which great changes have taken place in the habitat of the local fauna."

The twelve plates of bird-life reproduced in colours are among the most pleasing things of the kind we have seen, and these alone make the book one which all field naturalists will like to put on their shelves.

O. V. A.

#### CHEMICAL ANALYSIS FOR BEGINNERS.

*Tables for Qualitative Chemical Analysis.* By Prof. A. Liversidge, M.A., LL.D., F.R.S. (London: Macmillan and Co., Ltd., 1904.) Price 4s. 6d. net.

THE introductory chapter of Prof. Liversidge's book makes it clear that it is only when analytical methods are used intelligently that the time devoted to qualitative analysis is well spent, and to that end the student must have some preliminary training in other kinds of simple practical work (not described in the book), and be frequently supervised, lectured to, and examined as his work progresses.

All this is very right and proper, and quite as it should be, but leaving out the excellent counsel of perfection set forth in the introduction, the book is very much like other books on this subject. That is to say, it describes a series of qualitative tests in which inorganic and organic bases and acids, rare metals, and alkaloids are treated individually, and then collectively in tables after the old-established manner and with the old-established purpose.